BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE 1780

TRANSCRIPT OF HEARING

SEPTEMBER 30, 1959

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IN THE MATTER OF:

CASE 1780 Application of Husky Oil Company for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for one well in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing its Montecito Woolworth Well No. 2,Unit M,Section 33, Township 24 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to compensate for its overproduced status without being completely shut-in in order to prevent possible waste.

BEFORE:

Daniel S. Nutter, Examiner.

TRANSCRIPT OF PROCEEDINGS

MR. NUTTER: We will continue with Case 1780.

MR. PAYNE: Case 1780. Application of Husky Oil Company for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for one well in the Jalmat Gas Pool.

MR. KELLAHIN: Jason Kellahin of Kellahin & Fox, representing the applicant. We have two witnesses to be sworn.

(Witnesses sworn)

WILLIAM H. ARRINGTON,JR.,

called as a witness, having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Will you state your name, please?

A My name is William H. Arrington, Jr. A-r-r-i-n-g-t-o-n.

Q Mr. Arrington, by whom are you employed and in what position?

A I am the district engineer for Husky Oil Company in Midland, Texas.

Q Have you ever testified before this Commission before?

A No, I haven't.

Q Will you state briefly your educational qualifications and experience?

A I was graduated from Texas A & M College with a Bachelor of Science degree in petroleum engineering in 1950. Since that time, I've been employed by the Texas Railroad Commission, Oil & Refining Company, and for the past five years as district engineer for Husky Oil Company in Midland.

Q Are you in charge of the district in which the subject well, which is the subject of this hearing, is located?

A Yes, I am.

MR. KELLAHIN: Are the witness' qualifications acceptable?

MR. NUTTER: Yes, sir.

Q Mr. Arrington, are you familiar with the application in Case 1780?

A Yes, sir, I am.

Q Would you state briefly what is proposed in this case?

A This application is of Husky Oil Company for exception to overproduction provision of Order R-520, as amended by R-967 for one well in the Jalmat Gas Pool, its Montecito Woolworth No. 2. This well was originally completed as a Langley Mattix oil producer back in about 1938. In January of 1945, the well was plugged back to the so-called Yates or Jalmat gas zone, but was, until 1957, actually classified as a Langley Mattix Gas Well. At that time we began investigation of water flood possibility of Langley Mattix zone there, and we found that this particular well was actually placed in the wrong pool by the Commission. And in 1957 the well was reclassified as a non-standard gas proration unit in the Jalmat. It is located 990 feet from the South and West line, Section 33, Township 24 South, Range 37 East.

Q Did the well produce as a prorated well for any period of time?

A Yes, sir. I have prepared what I would consider our first Exhibit, a plot of the gas production and monthly allowable, by months, for the period of time only which it was classified as

Jalmat. This well produced as a prorated gas well until June of 1958. At that time due to a six months' period of low production, it was reclassified marginal and produced as a marginal well until July 1st, 1959. I would just like to, at this time, state actually how much gas this particular well has produced. It is very phenomenal, to say the least. During the period of July, which it was classified as marginal, it produced a hundred and thirty-nine thousand eight hundred and seventy-seven MCF of gas, or some 53 times its August allowable. Of this gas produced, it produced 93 percent of this. Well, actually, I should digress a little bit and say that actually overage during the period was 134,181 MCF. During the last six months it was a marginal well it produced 93 percent of this overage. The gas is being purchased by El Paso Natural Gas Company, and we expect an allowable of some 3,000 MCF per month in the future. Or, based on this figure, we would be looking at some 53, 55 times overproduction in months, a little over four years.

Q Was there any change in the line into which this well was being produced during the period involved?

A Yes, sir, it was. Midway in the period of which time it was marginal, it was removed from a high pressure line and placed in an intermediate line. I might say, had this well been placed in the intermediate line, as provided in our contract with El Paso back in 1957, when an average monthly -- average six months' gas production was somewhat less than the previous six

Q Have you prepared an Exhibit which will show the effect of water accumulation on the productivity of the well?

A Yes, sir. I would like to refer to our second Exhibit, which is shut-in wellhead pressure in pounds per square inch absolute versus time in months, approximately on the same square as we have plotted our production. It can be seen there that at the period of time which this well, back in '57, along in March and April, was producing around 10,000 MCF per month, the pressures were some 680 pounds. As the production declined to December and January -- December of '57 and January of '58 -- our production -- our pressure at that time had declined to some 613 pounds, or approximately 70 pounds decrease from the period of time which the well was producing; work curtailed due to high pressures. As the pressures were relieved on the high pressured gas line, our production increased. Consequently, our shut-in well had pressures increased. It might be well to state that the point that is not connected there shows a definite decrease in our pressures with a decrease in production there in August of 1959.

Q Did that follow the change to the intermediate pressure line?

A It did.

Q Now, does that indicate to you that the accumulation of fluids in the well bore has had any adverse affect on this well?

A Yes, sir. With fluids in the well bore, there is

months' rate prior to placing it in the intermediate line, we probably wouldn't be in the condition that we are in now, as our well would continue to produce as a prorated gas well.

Q Would you reveal briefly the production during the time of the producing into the high pressure line as compared into the intermediate line?

A During the period of time it was producing into the high pressure line, our peak production was some 10,000, 11,000 MCF per month. In December of 1957, our production, due to high pressure in the line, was only 71 MCF, that particular month. As the demand for gas receded, as pressures went down the line, the well continued in an upward swing of production. This can be seen in the early part of 1958.

Q Upon changing into the intermediate pressure line, there was a substantial increase in the production from the well, was there not?

A Yes, sir, there certainly was. During that period of time we had some months there that produced somewhere in approximately 30,000, 36,000 MCF per month. The well with 3100 MCF as a monthly allocation, that is a sizeable overage per month.

Q Does this well make any fluids?

A Yes, sir, it does. It produces approximately 2 to 3 barrels of water per week. The well is periodically blown down through the tubing, and we do recover some 2 to 3 barrels of water per week.

evidence that it has curtailed our production, and with lower pressure we could expect possibly the well logging up with water and not even producing at all.

Q Now, in the event this well were completely shut-in for the period of time required to make up for the overproduction which has been accumulated, would there be any damage, in your opinion, to the well?

A Yes, it would.

Q Would it possibly result in premature abandonment of the well?

A It very easily could. The period of time of complete shut-in being some four to possibly five years, it's very easily that even we may have damage to our casing, tubing, formation; just any number of things there that could cause premature abandonment of the well.

Q In your opinion, would that constitute waste?

A Yes, it would.

Q Now, in order to protect this well, is it necessary that it be continuously produced?

A Yes, we think it is.

Q Do you have any recommendation to make as to the manner in which the well should be produced in order to make up this overproduction and protect the well?

A As stated in the application to the Commission, we believe that 50 percent of what we estimate possibly to be our

monthly allocation is a fair, I would say, minimum production. We might state still that this 50 percent is backed up by the fact that during the period of time that we were producing somewhere in the realm of 2,000 to 2200 MCF per month, the well had, shut-in pressures were improving all along, and I might state that it is our belief that the well should not be curtailed below 2,000 MCF per month.

Q Does the information you have indicate that it tends to log up with water at a producing rate, below the producing MCF per month?

A Yes, sir. It is seen that during December, January, February and March the well produced only a maximum of 600 MCF per month. During that period of time, the bottom, the shut-in wellhead pressure was only 610 PSIA.

Q In your opinion, would production at a curtailed rate below the 2,000 MCF per month possibly result in permanent damage to the well?

A I believe it would.

Q Were Exhibits 1 and 2 prepared by you or under your direction?

A They were prepared by me.

MR. KELLAHIN: We would like to offer Exhibits 1 and 2.

MR. NUTTER: They will be entered in evidence.

Q (By Mr. Kellahin) Do you have any further statements?

A I don't believe I do.

MR. KELLAHIN: That's all the questions I have.

MR. NUTTER: Anyone have any questions of Mr. Arrington?

CROSS EXAMINATION

BY MR. UTZ:

Q Can you tell me what the average allowable for this well for the last twelve months is?

A The last twelve months, I would say about 3200. The last thirteen months previous to June was only 3100, and just offhand, I should say it should be over 30 MCF per month.

Q Are you using the marginal allowable, or non-marginal allowable?

A Well, the allowable that was assigned while the production was being produced.

Q Well, which is that, marginal allowable or --

A Marginal, that's right.

Q The well was reclassified on the basis of non-marginal allowables, is that correct?

A Well, just glancing over the New Mexico Oil Conservation Commission allowable for '58 and '59 -- I'll read this for the record. '58, in July, 1,084, August 146, September 1506, October 1662, November 2848, December 2782, January 4144, February 2206, March 2480, April 1533, May 353, June 2283. On the basis of those allowables, we were overproduced and reclassified

as a non-marginal well again.

Q Did you say those figures would average about 1981 MCF per month?

A They possibly would, without the benefit of adding them here.

Q Well, you are requesting a minimum allowable, or minimum production area of 2,000 a month. If those figures do average that, then we will have to have a substantial increase in allowable, or you would never make up this overproduction?

A Our deliverability has changed our present allowable for the last several months. In July it was approximately 7,000, in August it was approximately 2600, in September 4200. Considerably more than what we had on deliverability there of 224 and 418 respectively. Our deliverability, now, I believe, is 778.

Q You have had an increase in deliverability?

A That's right.

MR. NUTTER: Was that affected by changing the line pressure?

A Probably was.

Q It was actually affected by cleaning out the well bore?

A It probably was that too. With the well producing some million a day, it pretty well cleans itself out.

MR. UTZ: That's all the questions I have.

QUESTIONS BY MR. NUTTER:

Q Mr. Arrington, you stated by lining up these two Exhibits that there was a correlation between low pressures, low tubing head pressures, and the low producing rates, and the higher tubing head pressures, and the higher producing rates, and yet I note going from August to September you had a pretty substantial tubing head pressure decrease, but I believe you had an increase in productivity of that well during that month, didn't you, or I should say an increase in the production of that well?

A Well, let's see here in '57.

Q Is this '58, sir?

A '58.

Q Now, that top peak in '58, is that the month of August?

A That is correct, I believe.

Q And the next pressure is some 30 to 40 pounds lower, I believe, isn't it?

A Yes, sir.

Q Now, how about production from August to September?

A Well, looks like we had an increase there of about 2,000 MCF.

Q I don't doubt that there possibly may be a correlation here between low production rates and low pressures and high production rates and high pressures. However, I was just wondering if all these pressures are taken under identical conditions?

A I don't say they are. El Paso Natural Gas takes those for us.

Q Are they taken after an equal time of production and then an equal shut-in?

A Supposedly seventy-two hour shut-in.

Q How about production prior to the shut-in, is there a stabilization there?

A I wouldn't hazard a guess. Apparently, there is some difference there. As far as I know, there apparently -- the pressure is less, the well may have been shut-in previous to that. The pumper, they may or may not have notified our pumper there. He may not have the well blown down. They do blow it down, as previously stated, about once a week. If those conditions weren't at the best, surely the pressures would be less.

Q Well, the correlation would be only as good as the pressure tests upon which the correlation is based, wouldn't it?

A That is correct.

Q Well, do you have any other evidence that this well would be damage by curtailing the production drastically?

A Well, none other than has already been presented here.

MR. UTZ: Would you take such tests as to make this determination definitely --

A Sir?

MR. UTZ: Could you take some tests that would determine what the minimum rate of production would be?

A Yes, sir, we surely could. In keeping with the request that has been made previous here -- previously here this

morning by the other operators, I think that it might be well to -- that we conduct some test just to see what the minimum flow rate might be and still be able to keep our well producing. I feel fairly sure that it is in excess of 71 MCF per month.

Q (By Mr. Nutter) Well, now, you stated --

A We say that it is probably around 2,000, but we don't -- we've conducted no extensive test to try to ascertain just exactly what it is.

Q Well, now, Mr. Arrington, here in your letter of application you say, "At the present time the well produces an estimated two to five barrels of water per day, and requires a blow off of this water once a week."

A That's right.

Q Under what rate of production did you experience that --

A Well, --

Q -- during the first half of '59 or since you curtailed your production from July into August?

A I would say that was probably in, an average for the last, possibly last year. It has been going on for quite some time.

Q You have been having to blow off this well periodically?

A That's right.

MR. NUTTER: Any more questions of Mr. Arrington? He may be excused.

(Witness excused)

MR. KELLAHIN: I would like to call Mr. Port as our next witness, please.

GERALD J. PORT,

called as a witness, having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Will you state your name, please?

A Gerald J. Port.

Q Spell that.

A P-o-r-t.

Q By whom are you employed and in what position, Mr. Port?

A I'm employed by Husky Oil Company as field production foreman and production engineer.

Q Have you had any educational qualifications and experience in the field in which you are now engaged?

A Yes, sir.

Q Would you state briefly what your education and expereience has been?

A I received a degree of petroleum engineer in Colorado School of Mines in 1951, and since July of '52 have been employed by Husky Oil Company; now, as production engineer.

MR. KELLAHIN: Are the witness' qualifications ac-

ceptable?

MR. NUTTER: Yes, sir, please proceed.

Q Mr. Port, as production engineer, are you familiar with the production history of the Husky Oil Company's Montecito Woolworth No. 2 Well?

A Yes, sir, I am.

Q Would you review briefly the production history of that well, using the records or our Exhibit No. 1?

A My testimony on this would be the same as Mr. Arrington has previously given, the well being put into the intermediate line in January of '59. However, in April I ran a study on our holdings in the Jalmat area, both the oil in the Langley Mattix and the gas in the Jalmat Field. And at that time I noticed with an allowable of 3096 MCF per month that our production had quite sharply increased and was running in the vicinity of 30,000 MCF a month, and sometimes quite a bit higher.

Q Did you take any steps to call this to the attention of the purchasing company, in an effort to get the situation corrected?

A Yes, sir, I did.

Q Will you tell the Commission just what you did?

A I contacted a Mr. J. W.Bolch at Jal with El Paso Natural Gas Company; I believe he is their division engineer. And during a phone conversation, I explained the situation to Mr. Bolch telling him that I knew eventually there would be a re-

adjustment period for the six month balancing period, and with this well running ten times over its marginal allowable, and having had also one previous change of deliverability from, I believe it was 218 to 448, and also another deliverability after we were put in the intermediate line, which had calculated to 778, I knew that we would be well overproduced. I contacted Mr. Bolch and asked him during the conversation if they could hold that well to about, somewheres in the range of 5,000 MCF per month until it was found out what would happen. They said they would try to do what they could, and in May of 1959, as you will notice from Exhibit 1, there was a decrease in production from around 29,000 down to about 9500 MCF for that month. I never contacted Mr. Bolch again or talked to anybody with El Paso, even after the wells received a reclassification notice, but as you can tell, the production jumped back sharply in June and July. That was all I did.

MR. KELLAHIN: That's all the questions I have, Mr. Nutter.

MR. NUTTER: Does anyone have a question of Mr.Port? He may be excused.

(Witness excused)

MR. KELLAHIN: That's all we have, sir.

MR. NUTTER: Does anyone have anything further in Case 1780? We will take the case under advisement and adjourn the hearing.

STATE OF NEW MEXICO )
) ss
COUNTY OF BERNALILLO )

I, J. A. Trujillo, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me in Stenotype and reduced to typewritten transcript by me, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal this, the 27th day of October, 1959, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Joseph A. Trujillo
NOTARY PUBLIC

My Commission Expires:

October 5, 1960

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1780, heard by me on 9-30, 1959.

, Examiner
New Mexico Oil Conservation Commission